

IN THE CLAIMS

Please amend the claims as follows:

Claims 1-19 (Canceled).

Claim 20 (New): An acoustic signal packet transmitting method for a communication apparatus including a transmitting unit and a receiving unit, comprising:

in the transmitting unit:

a step of dividing an acoustic signal such as a voice or music signal into given time segments called frames to generate frame acoustic signals and generating, from each frame acoustic signal, acoustic signal corresponding data as data corresponding to the frame acoustic signal; and

a containing step of containing the frame acoustic signal and the acoustic signal corresponding data in each packet and transmitting the packet;

said containing step further includes containing a delay amount control information indicating a difference of frame numbers in the same packet that contains the frame acoustic signal;

the acoustic signal corresponding data is a data for a frame having a frame number different by a value indicated by the delay amount control information; and

the acoustic signal packet transmitting method further comprises:

in the receiving unit:

a determination step of determining at least one of a jitter state of a received packet and a loss state of a received packet; and

a step of using the result of the determination made in the determination step to determine, as a targeted value of the number of stored packets, the number of packets to be stored in the receiving buffer; and

in the transmitting unit:

a step of setting the delay amount control information to a value smaller than or equal to the targeted value of the number of stored packets which is determined at the receiving unit.

Claim 21 (New): An acoustic signal packet communicating method between a first communication apparatus including both a transmitting unit and a receiving unit and a second communication apparatus including both a transmitting unit and a receiving unit, comprising:

in the transmitting unit in the first communication apparatus:

a step of dividing an acoustic signal such as a voice or music signal into given time segments called frames to generate frame acoustic signals and generating, from each frame acoustic signal, acoustic signal corresponding data as data corresponding to the frame acoustic signal; and

a containing step of containing the frame acoustic signal and the acoustic signal corresponding data in each packet and transmitting the packet;

said containing step further includes containing a delay amount control information indicating a difference of frame numbers in the same packet that contains the frame acoustic signal;

the acoustic signal corresponding data is a data for a frame having a frame number different by a value indicated by the delay amount control information; and

the acoustic signal packet communicating method further comprises:

in the receiving unit in the second communication apparatus:

a determination step of determining at least one of a jitter state of a received packet and a loss state of a received packet;

a step of using the result of the determination made in the determination step to determine, as a targeted value of the number of stored packets, the number of packets to be stored in the receiving buffer; and

a step of sending the targeted value of the number of stored packets to the transmitting unit in the second communication apparatus; and

in the transmitting unit in the second communication apparatus:

a step of containing the targeted value of the number of stored packets sent from the receiving unit in the second communication apparatus in a packet as information for specifying delay amount control information to be set in the transmitting unit in the first communication apparatus; and

in the transmitting unit in the first communication apparatus:

a step of setting delay amount control information to a value smaller than or equal to the targeted value of the number of stored packets contained in a packet sent from the transmitting unit in the second communication apparatus.

Claim 22 (New): An acoustic signal packet communicating method between a first communication apparatus including both a transmitting unit and a receiving unit and a second communication apparatus including both a transmitting unit and a receiving unit, comprising:

in the transmitting unit in the first communication apparatus:

a step of dividing an acoustic signal such as a voice or music signal into given time segments called frames to generate frame acoustic signals and generating, from each frame acoustic signal, acoustic signal corresponding data as data corresponding to the frame acoustic signal; and

a containing step of containing the frame acoustic signal and the acoustic signal corresponding data in each packet and transmitting the packet;

said containing step further includes containing a delay amount control information indicating a difference of frame numbers in the same packet that contains the frame acoustic signal,

the acoustic signal corresponding data is a data for a frame having a frame number different by a value indicated by the delay amount control information, and

the acoustic signal packet communicating method comprises:

in the receiving unit in the second communication apparatus:

a step of measuring, as a remaining buffer amount, the number of packets stored in the receiving buffer; and

a step of sending the remaining buffer amount to the transmitting unit in the second communication apparatus;

in the transmitting unit in the second communication apparatus:

a step of containing the remaining buffer amount sent from the receiving unit in the second communication apparatus in a packet as information for specifying delay amount control information to be set in the transmitting unit in the first communication apparatus and transmitting the packet; and

in the transmitting unit in the first communication apparatus:

a step of setting delay amount control information to the remaining buffer amount contained in a packet sent from the transmitting unit in the second communication apparatus.

Claim 23 (New): An acoustic signal packet communicating apparatus comprising:

a transmitting unit having:

means for dividing an acoustic signal such as a voice or music signal into given time segments called frames to generate frame acoustic signals; and

means for generating from each frame acoustic signal, acoustic signal corresponding data as data corresponding to the frame acoustic signal;

containing means for containing the frame acoustic signal and the acoustic signal corresponding data in each packet; and

means for transmitting the packets; and

a receiving unit having:

a receiving buffer for storing therein received packets;

loss detecting means for determining whether or not a packet containing a frame acoustic signal associated with the number of the frame to be extracted is stored in the receiving buffer;

acoustic signal packet decoding means for, when it is determined in the loss detecting means that the packet containing the frame acoustic signal associated with the frame number of the frame to be extracted is stored in the receiving buffer, extracting the frame acoustic signal from the packet stored in the receiving buffer and providing the frame acoustic signal as a frame output acoustic signal;

loss handling means for, when a packet loss occurs as determined in the loss detecting means in that the packet containing the frame acoustic signal associated with the frame number of the frame to be extracted is not stored in the receiving buffer, extracting an acoustic signal corresponding data for the frame as a lost frame, from a packet stored in the receiving buffer and generating a frame output acoustic signal by using the acoustic signal corresponding data; and

means for concatenating frame output acoustic signals outputted from the acoustic signal packet decoding means or the loss handling means and outputting the concatenated frame output acoustic signal;

said containing means in the transmitting unit is configured to contain delay amount control information indicating a difference of frame numbers in the same packet that contains the frame acoustic signal;

the acoustic signal corresponding data is a data for a frame having a frame number different by a value indicated by the delay amount control information;

said loss handling means in the receiving unit is configured to obtain, when a packet loss occurs, acoustic signal corresponding data having the same frame number as that of a lost frame from the packet in the receiving buffer by using the delay amount control information included in the packet;

the receiving unit further comprises determining means for determining at least one of a jitter state of a received packet and a loss state of a received packet and means for determining, as the targeted value of the number of stored packets, the number of packets to be stored in a receiving buffer by using the result of the determination made by the determining means; and

the transmitting unit further comprises means for setting the delay amount control information to a value less than or equal to the targeted value of the number of stored packets.

Claim 24 (New): A computer readable recording medium that has stored therein an acoustic signal packet transmitting program for causing a computer to perform the steps of the acoustic signal packet transmitting method according to claim 20.